

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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R.J. REYNOLDS VAPOR COMPANY,  
Petitioner,

v.

FONTEM HOLDINGS 1 B.V.,  
Patent Owner.

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Case IPR2016-01692  
Patent 9,326,548 B2

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Before JO-ANNE M. KOKOSKI, KRISTINA M. KALAN, and  
KIMBERLY MCGRAW, *Administrative Patent Judges*.

KALAN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C. § 318(a) and 37 C.F.R. § 42.73*

## I. INTRODUCTION

R.J. Reynolds Vapor Company (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–14 of U.S. Patent No. 9,326,548 B2 (Ex. 1001, “the ’548 patent”). Paper 2 (“Pet.”). Fontem Holdings 1 B.V. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). We instituted an inter partes review of claims 1–14 on certain grounds of unpatentability alleged in the Petition. Paper 8 (“Dec.”).

After institution of trial, Patent Owner filed a Patent Owner Response. Paper 19 (“PO Resp.”). Petitioner filed a corrected Reply. Paper 24 (“Reply”). An oral hearing was held on October 26, 2017. A transcript of the hearing is included in the record. Paper 44 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has not established by a preponderance of the evidence that claims 1–14 of the ’548 patent are unpatentable.

### A. *Related Proceedings*

The parties indicate that the ’548 patent is asserted in *Fontem Ventures B.V. v. R.J. Reynolds Vapor Co.*, Civil Action No. 16-CV-1257 (M.D.N.C.). Pet. 3; Paper 6, 1.

### B. *The ’548 Patent*

The ’548 patent, titled “Electronic Cigarette,” is directed to an electronic cigarette having a battery assembly and an atomizer assembly within a housing, with the battery assembly electrically connected to the atomizer assembly. Ex. 1001, at [54], [57]. A liquid storage component is in contact with a porous component of the atomizer assembly, and a heating

wire is in an air flow path through a run-through hole. *Id.* at [57].

According to the '548 patent, prior art devices had various disadvantages, including low atomizing efficiency, being structurally complicated, and not providing ideal aerosol effects. *Id.* at 1:36–38.

Figure 1 of the '548 patent is reproduced below:

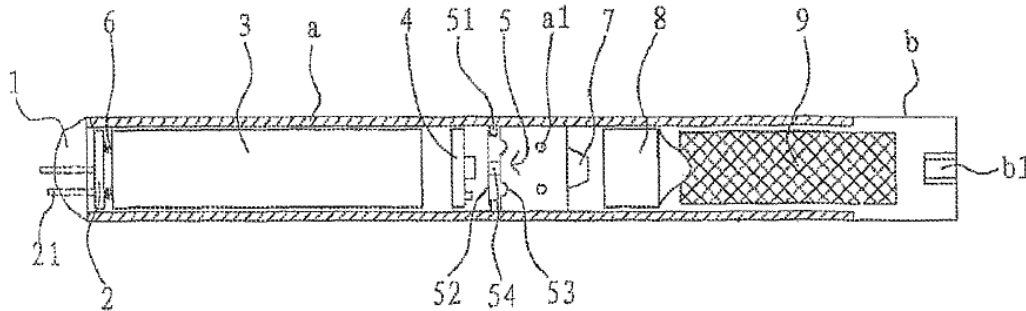


Figure 1

Figure 1 is a side section view of an electronic cigarette. *Id.* at 1:62. Hollow, integrally-formed shell (a) includes a battery assembly, atomizer assembly, and cigarette bottle assembly. *Id.* at 2:48–51. The battery assembly connects to the atomizer assembly in shell (a), and the detachable cigarette body assembly (which fits with the atomizer assembly) is located in one end of shell (a). *Id.* at 2:51–55. The battery assembly includes operating indicator 1, battery 3, electronic circuit board 4, and airflow sensor 5. *Id.* at 2:57–60. The atomizer assembly is atomizer 8, which includes a porous component and a heating rod. *Id.* at 3:25–27. The cigarette bottle assembly includes hollow cigarette shell holder (b), and perforated component for liquid storage 9. *Id.* at 4:2–4. Air channel (b1) is located in the center on the surface of one end of cigarette shell holder (b), and extends inward. *Id.* at 4:12–14.

Figures 17 and 18 of the '548 patent are reproduced below:

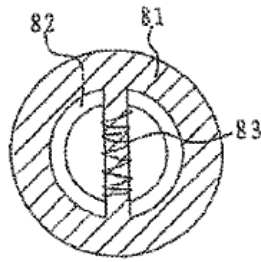


Figure 17

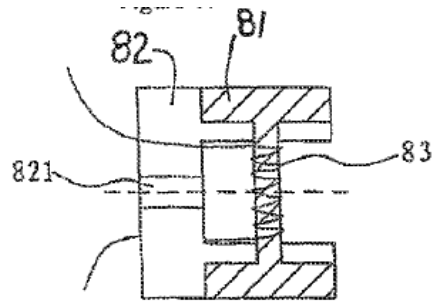


Figure 18

Figure 17 is a diagram of the axial structure of the atomizer in another embodiment, and Figure 18 is a side section view of the atomizer shown in Figure 17. *Id.* at 2:29–32. In this embodiment, the atomizer assembly includes “a frame (82), the porous component (81) set on the frame (82), and the heating wire (83) wound on the porous component (81).” *Id.* at 5:63–65. As described in the '548 patent, the “frame (82) has a run-through hole (821) on it. The porous component (81) is wound with heating wire (83) in the part that is on the side in the axial direction of the run-through hole (821). One end of the porous component (81) fits with the cigarette bottle assembly.” *Id.* at 5:65–6:2.

### C. Challenged Claims

Petitioner challenges claims 1–14 of the '548 patent. Of challenged claims 1–14, claims 1, 8, and 11 are independent. Claims 2–7 depend, directly or indirectly, from claim 1. Claims 9 and 10 depend directly from claim 8. Claims 12–14 depend directly from claim 11.

Claim 1 is reproduced below:

1. An electronic cigarette, comprising:  
a battery assembly having a cylindrical battery and an operating indicator;

an atomizer assembly in an elongated cylindrical housing, with the battery assembly electrically connected to the atomizer assembly, and with the cylindrical battery coaxial with the atomizer assembly;

a liquid storage component in the housing;

the atomizer assembly including a porous component set on a frame having a run-through hole;

a heating wire coil electrically connected to the battery;

an air flow path in the atomizer assembly parallel to a longitudinal axis of the housing, with the air flow path through the run-through hole to an outlet, with the heating wire coil wound on the porous component and in the air flow path and with the heating wire coil oriented perpendicular to the longitudinal axis; and

the porous component in contact with the liquid storage component.

Ex. 1001, 6:12–30.

*D. Instituted Grounds of Unpatentability*

We instituted *inter partes* review of claims 1–14 of the ’548 patent on the following grounds:

References	Basis	Claims Challenged
Hon ’043, <sup>1</sup> Whittemore, <sup>2</sup> and Voges <sup>3</sup>	§ 103	1–10
Hon ’043, Whittemore, Voges, and Gehrler <sup>4</sup>	§ 103	11–14

Petitioner relies on the declarations of Dr. Robert H. Sturges (Ex. 1015; Ex. 1026; Ex. 1039). Patent Owner relies on the declarations of Richard Meyst (Ex. 2001; Ex. 2030).

<sup>1</sup> Chinese Patent No. CN 2719043 Y (Ex. 1002 and 1003 (English translation), “Hon ’043”).

<sup>2</sup> U.S. Patent No. 2,057,353 (Ex. 1004, “Whittemore”).

<sup>3</sup> U.S. Patent No. 5,894,841 (Ex. 1021, “Voges”).

<sup>4</sup> U.S. Patent No. 5,703,633 (Ex. 1023, “Gehrler”).

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